

- Develop a measurement and metrics plan tailored to your organization
- Select the right measures for your project and organization
- Explore testing's role in software measurement
- Create a custom quality and test metrics dashboard
- Learn how to avoid dysfunctional metrics

To be most effective, leaders—such as development and testing managers, ScrumMasters, product owners, and IT managers—need metrics to help direct their efforts and make informed recommendations about the software's release readiness and associated risks. Because one important evaluation activity is to “measure” the quality of the software, the progress and results of both development and testing must be measured. Collecting, analyzing, and using metrics are complicated because developers and testers often are concerned that the metrics will be used against them.

In this course, you will create your own metrics plan, establish the guidelines for developing a quality and test measurement program, identify rules of thumb for metrics information, and learn how to avoid “metrics dysfunction.” This course addresses common metrics—measures of product quality, defect removal efficiency, defect density, defect arrival rate, testing status, and more.

## The Leader's Role in Measurement

Providing timely and accurate quality and release readiness information to project stakeholders is one of the most important values of testing. As a byproduct of testing efforts, the team(s) and team leaders need to continually measure and report the status and quality of the products and features under development. At the same time, they should measure test effectiveness as a guide for improving testing practices. The team and its leaders must determine when to stop testing and fixing bugs—and release the product. Because a key component of testing is measuring the quality of the software product, team leaders and other key stakeholders need timely information related to the entire software development activity.

## Who Should Attend?

This course provides foundational information on planning, selecting, and implementing metrics and measures for your team or organization. The course walks you through the creation of a measurement and metrics plan tailored to your organization. Anyone responsible for defining and reporting process and product measures for testing efforts—software and test managers; project managers; ScrumMasters; development or test leaders, those in testing roles, and QA personnel—can benefit from this course.

Coveros recommends this course to help prepare you for [Advanced Tester Certification—Test Managers course](#)<sup>[1]</sup> and certification exam.

## Course Outline

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### Course Overview

- Course summary
- Course goals and outline
- Instructor introduction

### A Quality and Test Dashboard

- Quality of product
- Test status
- Test effectiveness
- Test efficiency
- Resources

### Course Context

Software as a series of imperfect translations

What is software measurement

### **Common and Uncommon Measures**

Primitive and computed measures and metrics

Common metrics

Uncommon metrics

### **Basic Definitions of Software Measurement**

Measure, metric, meter, meta-measure

What makes a good measure or metric

### **Why Measure?**

Understand progress

Determine readiness and results

Take corrective action

Drive improvement

Get high quality products to market more quickly and at the right cost

### **Measurement and Metrics— Challenges and Requirements**

Measurement challenges

Measures and metrics key requirements

Key principles

### **Metrics Rules of Thumb**

The human element

The basics

KISS

And a myth or two

### **Foundational Material for Your Measurement and Metrics Plan**

Templates

Questions

Examples

Virtual Consulting included with this course

### **Define Your Measurement Plan**

Measurement & metrics plan—example

Define with your end in mind

Engage others

### **Assess Your Current Measures and Metrics**

Measures and metrics inventory—example

Gap analysis

Measurement and Metrics— Composition

Engage key stakeholders

Issues

### **The Quality of Product Gauge**

Functional defect information

Non-functional defect information

Defect clustering

Code complexity

### **The Test Status Gauge**

Test execution information

Defect information

Coverage information

Risk information

### **The Test Effectiveness Gauge**

Coverage information

Defect information

Customer feedback

Defect cost

Traceability

Defect detection percentage

### **The Test Efficiency Gauge**

Time required to design, equip, or execute test cases

Defect removal efficiency

Time to run tests

Time to develop and maintain automated tests

Time to equip and deploy environments

### **The Resources Gauge**

Actual vs estimated for test planning and budgeting

Staffing—internal or external

Test environment utilization

Other hardware/software resources

### **The Issues Gauge**

Commentary and narrative

Roadblocks, constraints, risks, skill set needs, training, availability of new hardware or software, etc.

### **Using the Dashboard**

Avoiding dysfunction

Truths and myths

Collecting and Managing Metrics Information

Obtaining metrics information

Measurement without data

Tools to support measurement and metrics

### **Selling, Piloting, and Implementing Metrics**

Which stakeholders are important for your plan

### **Measures and Metrics in the Context of Your Development Lifecycle**

Agile and metrics

Waterfall and metrics

Hybrid lifecycles and metrics

### **Goal, Question, Metric + Strategies Paradigm**

Link goals to metrics

GQM + Strategies—example

Selling metrics—qualitative questions

Selling metrics—quantitative questions

### **Lessons Learned and Wrap-Up**

Advice on things to do and not to do

Keys to success

Course summary